

AMENDED CLAIMS

1. (Previously presented) A method of making measurements during drilling of a borehole, the method comprising:
 - (a) making measurements continuously with a formation evaluation (FE) sensor on a bottom hole assembly (BHA);
 - (b) concurrently making quality control (QC) measurements while said FE measurements are being made, said QC measurements including at least one measurement not related to motion of said BHA;
 - (c) storing samples of said FE measurements in a working memory of a processor on said BHA;
 - (d) analyzing said QC measurements; and
 - (e) based on said analysis, storing selected samples of said FE measurements in a permanent memory of said processor.
2. (Original) The method of claim 1 wherein said FE sensor comprises at least one hydrophone responsive to a seismic signal from a surface source.
3. (Original) The method of claim 1 wherein said FE sensor comprises at least one geophone, said at least one geophone responsive to a seismic signal from a surface source.

4. (Previously presented) The method of claim 1 wherein said at least one QC measurement is selected from (i) a weight on bit (WOB), (ii) flow rate of a fluid in said borehole, (iii) a level of a tube wave in said borehole, (iv) a level of motion of a non-rotating sleeve on said BHA, and (v) a measurement made by a near bit accelerometer.
5. (Original) The method of claim 1 wherein said QC measurements further comprise a measurement of motion of said BHA.
6. (Original) The method of claim 1 wherein said FE sensor comprises an accelerometer responsive to a signal from a surface source.
7. (Original) The method of claim 1 wherein said FE sensor comprises an acoustic sensor responsive to a signal from a source in another borehole.
8. (Previously presented) A method of making measurements during drilling of a borehole, the method comprising:
 - (a) making quality control (QC) measurements using a sensor on a bottom hole assembly BHA during drilling of said borehole, said QC measurements including at least one measurement not related to a motion of said BHA;
 - (b) analyzing said QC measurements;

- (c) using the results of the analysis for predicting an initial time when measurements made by a formation evaluation (FE) sensor on said BHA are expected to be of acceptable quality; and
 - (d) making measurements with said FE sensor over a time interval that starts earlier than said initial time; and
 - (e) recording the measurements made with the FE sensor.
9. (Original) The method of claim 1 wherein said FE sensor comprises an acoustic sensor responsive to a signal from a source at at least one of (i) a surface location, and, (ii) in another borehole.
10. (Original) The method of claim 1 wherein said acoustic sensor is one of (i) a hydrophone, (ii) a geophone, and, (iii) an accelerometer.
11. (Original) The method of claim 8 wherein said predicting is based at least in part on measurements made by an axial accelerometer on the BHA.
12. (Original) The method of claim 8 wherein said predicting is based at least in part on monitoring of a mud flow in said borehole.
13. - 19. Canceled